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**THE TEMPLETON CROCKER EXPEDITION OF THE
CALIFORNIA ACADEMY OF SCIENCES, 1932**

No. 13

DIPTERA

BY

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The Diptera collected by the Crocker Expedition to the Galapagos form a noteworthy addition to our knowledge of the insects from this interesting group of islands and it has been a pleasure to prepare this report on the collection. In 1932 a report on the Diptera of the Wollebæk Expedition¹ was published and a list of all species known from the Islands included. In this report the Tipulidæ and Culicidæ were omitted and references to three species were overlooked. In April, 1933, Mr. M. C. Van Duzee² published a report on the Dolichopidæ and Phoridæ of the Crocker Expedition, but all of the specimens of these families were not included, and additional records are included in the present report, together with references to the original descriptions of species from the Galapagos. Owing to the fact that I have so recently presented a review of the Diptera from this region I have not repeated all of the records and the student will find it necessary to use my two reports together in order to obtain a complete survey of the known Dipterous fauna of the Galapagos Islands.

¹ Curran, *Nyt Mag. f. Naturvidens.*, lxxi, pp. 347-366, 1932.

² Van Duzee, *Proc. Calif. Acad. Sci.*, xxi, pp. 65-74, 1933.

While the Crocker Expedition secured a large number of specimens a glance at the present report will acquaint the reader with the fact that additional material in the California Academy of Sciences, the collection made by Dr. F. X. Williams in 1905 and 1906, constitutes no little part of the material studied. Dr. Williams secured a number of species not obtained by the Crocker Expedition, including two of the species described as new. Most of the material is in good condition and as a result I am able to correct some errors in my previous report.

I must express my appreciation to Mr. E. P. Van Duzee for the privilege of examining the collections upon which this report is based, to Messrs. Marston Bates and H. G. Barber for bringing to my notice descriptions of species which had been overlooked, and to Miss Daphne Aubertin and Mr. Tams for their assistance in the identification of *Oxya æsia* Walker.

The types of the new species and all uniques are in the California Academy of Sciences. Paratypes and duplicate specimens, where available, are in the American Museum of Natural History.

FAMILY TIPULIDÆ

I am indebted to Dr. C. P. Alexander for the identification of the specimens belonging to this family.

1. *Limonia* (*Geranomyia*) *tibialis* (Loew)

Aporosa tibialis Loew, Linn. Ent., v, p. 397, 1851.

Seven specimens of both sexes: Black Beach Road, Charles Island, April 25 and May 14, 1932, and Chatham Island, April 18, 1932 (M. Willows Jr.).

According to Dr. Alexander this species has a wide range in the Neotropical region. Evidently the specimens reported by Coquillett and Johnson belong to this species.

FAMILY CHIRONOMIDÆ

Two species belong to this family.

2. *Galapagomyia longipes* Johnson

Galapagomyia longipes Johnson, Zoologica, v, p. 86, 1924 (f).

Female, Indefatigable Island, May 6, 1932 (M. Willows Jr.).

This specimen is much smaller than any of the others I have seen.

3. *Chironomus* sp.

A single male specimen in poor condition, Chatham Island, April 17, 1932 (M. Willows Jr.).

A species of *Chironomus* has been recorded from the Island but no material in sufficiently good condition to be named has been secured.

FAMILY CULICIDÆ

Only one species is represented in the collection and this has been identified by Dr. Stanley Freeborn.

4. *Aedes tæniorhynchus* (Wiedemann)

Culex tæniorhynchus Wiedemann, Dipt. Exot., p. 43, 1821.

Nine females, Chatham Island, April 17, 1932; five females, Charles Island, April 23, 25, 1932; one female, Indefatigable Island, May 5, 1932; one female, James Island, June 4, 1932, and one female, Jervis Island, June 6, 1932 (M. Willows Jr.). Also two females, Charles Island, October 3, 1905 (F. X. Williams).

In addition to the specimens enumerated above the Academy has additional material from Indefatigable, Charles and Chatham islands which was not forwarded.

FAMILY CERATOPOGONIDÆ

One species has been described from the Islands.

5. *Dasyhelea galapagensis* (Coquillett)

Ceratopogon galapagensis Coquillett, Proc. Wash. Acad. Sci., iii, p. 372, 1901.

Nine males and three females, Gardner Island, April 22, 1932; one male, Indefatigable Island, May 7, 1932 (M. Willows Jr.).

FAMILY SCIARIDÆ

This family is represented by four females of a very small species of *Sciara*. Since the identification of females in this genus is very difficult, and little is known about the Neotropical species I have made no effort to name the specimens.

The specimens are from South Seymour Island, July 11, 1932 (M. Willows Jr.).

FAMILY STRATIOMYIDÆ

Two species were taken on the Islands by F. X. Williams, one of them undescribed.

6. *Pelagomyia dubia* Curran

Pelagomyia dubia Curran, *Nyt Mag. Naturvidens.*, lxxi, p. 348, 1932.

Two females, Chatham Island, February 8, 1906; female, Tagus Cove, Albemarle Island, March, 1906; female, Indefatigable Island, November, 1905; female, South Seymour Island, July 25, 1906; female, Hood Island, October 1905; male, James Island, July 28, 1906; male, Charles Island, October, 1905, all collected by F. X. Williams.

The female from Hood Island was reared from pupa in cactus and a male from James Island is labelled "cactus fly."

7. *Merosargus insularis* Curran, new species

Related to *elatus* Curran but differs in having the posterior femora and tibiæ wholly reddish. Length, 7 mm.

Male.—Head black, the front and vertex metallic green; front yellow anteriorly, darker immediately above the antennæ; hair black, yellowish on the vertex, whitish on the occiput. Proboscis and palpi yellow. Antennæ reddish, black haired; arista, black.

Thorax metallic green, the upper border of the sternopleura and most of the pteropleura yellowish; humeri, posterior calli and upper edge of the mesopleura yellow. Hair yellow, rather tawny on the disc of the mesonotum, becoming whitish on the pectus.

Legs reddish, the apical four segments of the posterior tarsi brownish and bearing black hair; middle and posterior femora and the upper surface of the posterior tibiæ with very short black hair, the hair otherwise yellow.

Wings cinereous hyaline. Squamæ pale yellowish. Halteres reddish yellow.

Abdomen black, the incisures broadly yellowish, the first segment green laterally, the hair black, yellow on the apices of the segments and on the sides. Venter wholly reddish yellow. Genitalia reddish, the cerci brown.

Holotype, male, No. 3795, C. A. S. Ent., Cocos Island, September 3, 1905 (F. X. Williams).

FAMILY TABANIDÆ

Representatives of the single species known from the Islands were secured by F. X. Williams.

8. *Tabanus vittiger* Thomson

Tabanus vittiger Thomson, *Eugenies Resa*, p. 451, 1868.

Four females, Chatham Island, January 24, 1906, and October 12, 1906; female, Charles Island, October 3, 1905; two females, Albe-

marle Island, March and April 24, 1906; four females, Indefatigable Island, November, 1905, and July 11, 1906.

One of the specimens bears a label "feeding on turtles."

FAMILY BOMBYLIIDÆ

One species was collected by the Crocker Expedition and another by Dr. F. X. Williams.

9. *Lepidanthrax tincta* (Thomson)

Anthrax tincta Thomson, Eugenies Resa, p. 483, 1868.

Female, Bartholomew Island, June 14, 1932.

The specimen is in fairly good condition and there can be no doubt that the species belongs to *Lepidanthrax*. It is possible that *Anthrax brachialis* Thomson also belongs to this genus.

10. *Villa primitiva* (Walker)

Anthrax primitiva Walker, List. Dipt. Brit. Mus., ii, p. 257, 1849.

Five specimens collected by F. X. Williams on Barrington Island, October 20, 1905.

FAMILY EMPIDÆ

11. *Drapetis zonalis* (Curran)

Drapetis zonalis Curran, Nyt Mag. Naturvidens., lxxi, p. 351, 1932.

Female, Indefatigable Island, May 5, 1932.

The female differs from the male in having the basal three segments reddish yellow with brown lateral spots, the apical segments black.

FAMILY DOLICHOPIDÆ

Most of the material belonging to this family has been examined and reported upon by Mr. M. C. Van Duzee (Proc. Calif. Acad. Sci., xxi, pp. 65-69, 1933). However, the collection contains two species, one of them new to the Islands: A list of the species known from the Galapagos is given for the convenience of students.

Condylostylus dentaticauda Van Duzee (1933).

Anchineura tibialis Thomson (1868).

Chrysotus brevicornis Van Duzee (1933).

Chrysotus brevispina Van Duzee (1933).

Chrysotus latifacies Van Duzee (1933).

- Asyndetus versicolor* Johnson (1924).
Asyndetus interruptus (Loew) (1861).
Aphrosylus setosus Curran (1932).
Paracleius pusillus (Macquart ?) Coquillett (1901).

12. ***Chrysotus brevispina* Van Duzee**

Chrysotus brevispina Van Duzee, Proc. Calif. Acad. Sci. xxi, p. 68, 1933.

One male, Chatham Island, April 18, 1932 (M. Willows Jr.).

13. ***Asyndetus interruptus* (Loew)**

Diaphorus interruptus Loew, Wien. Ent. Monatschr., v, p. 37, 1861.

One male, Abingdon Island, September 18, 1906 (F. X. Williams).

FAMILY PHORIDÆ

One specimen was overlooked when the material was sent to Mr. M. C. Van Duzee. In his report on this family Mr. Van Duzee described *Dohnniphora willowsi* and *crockeri*. The specimen in the collection agrees perfectly with *crockeri* Van Duzee and it also agrees perfectly with specimens of *venusta* Coquillett taken on my office windows in New York City. The venation is identical and I do not think there can be any doubt about the synonymy.

14. ***Dohnniphora venusta* (Coquillett)**

Phora venusta Coquillett, Can. Ent., xxvii, p. 107, 1895.

Phora divaricata Aldrich, Trans. Ent. Soc. London, p. 437, 1896.

Dohnniphora crockeri Van Duzee, Proc. Calif. Acad. Sci., xxi, p. 70, 1933.

Female, South Seymour Island, July 11, 1932 (M. Willows Jr.).

This specimen was taken at the same time as the type of *crockeri*. The species varies in color, the mesonotum and abdomen varying from reddish brown to black. I have previously recorded the species from the Galapagos.

FAMILY PIPUNCULIDÆ

15. ***Pipunculus galapagensis* Curran, new species**

A small, black species with partly yellowish legs, yellow third antennal segment and cleft hypopygium. Length, 2.25 mm.

Male.—Face, frontal triangle and posterior orbits silvery white pollinose; vertical triangle and vertex shining black, the occiput thinly pale pollinose; labellæ and palpi yellowish. Eyes touching for a distance equal to half the length of the frontal triangle. Basal antennal segments brown, the third yellow, acutely pointed below.

Thorax black, the humeri yellow in ground color. Mesonotum and scutellum thinly brownish pollinose, the pleura with cinereous pollen; scutellum with fine, dark hair.

Legs black; tips of femora and broad bases of the tibiæ yellow, the apices of the tibiæ and the tarsi reddish, the tarsi becoming brown apically; posterior four tibiæ silvery in front from basal view.

Wings cinereous hyaline, without stigma; fourth vein without appendage. Squamæ whitish. Halteres yellow.

Abdomen greenish black, thinly brown pollinose, the first segments and sides of the apical ones with rather thin whitish pollen, the bristly hairs on the sides of the first segment whitish, the hair otherwise inconspicuous. Genitalia rather small from dorsal view, broadly cleft toward the right, half as long as the abdomen from ventral view.

Female.—Front moderately wide, shining black on the upper half; anterior eye facets very large; sixth abdominal segment almost all whitish pollinose, the genitalia small, the piercer about as long as the basal section and reddish in color.

Holotype, male, No. 3796, C. A. S. Ent., Tagus Cove, Albemarle Island, May 25, 1932; allotype, female, No. 3797, C. A. S. Ent., Gardner Island, near Hood Island, April 22, 1932. Paratypes: two males, Charles Island, April 24 and May 14, 1932, and male, James Island, June 4, 1932 (M. Willows Jr.).

This species is perhaps related to *acuticornis* Malloch, from Panama, but the absence of pale abdominal fasciæ will distinguish it.

FAMILY SYRPHIDÆ

The Crocker Expedition obtained three species, all previously recorded from the Islands. One of these is undescribed while a second has been erroneously placed in *Sphærophoria*.

KEY TO GENERA

1. Abdomen elongate and spatulate. *Baccha* Fabricius.
Abdomen not spatulate, never narrowed basally. 2.
2. Face wholly black. *Xanthandrus* Verrall.
Face partly yellow. 3.
3. Mesonotum with a median cinereous or metallic vitta; face strongly produced in the middle. *Mesogramma* Loew.
Mesonotum shining black, without median vitta; face weakly tuberculate below the middle, almost straight to the tip of the tubercle. *Allograpta* Osten Sacken.

16. *Allograpta splendens* (Thomson)

Syrphus splendens Thomson, *Eugenies* Resa, p. 501, 1868.

Sphærophoria splendens Coquillett, *Proc. Wash. Acad. Sci.*, iii, p. 374, 1901.

Four females, Chatham Island, April 17, 18, 1932 (M. Willows Jr.). One female, James Island, July 3, 1906 (F. X. Williams).

This species agrees with *obliqua* Say in having a continuous yellow band on the pleura, the hypopleura being crossed by a yellow spot.

It differs greatly from *obliqua* in the abdominal markings, the black vittæ being absent, the pale fasciæ arched and more or less tridentate behind on the fourth and following segments, as well as in having a black vittate face.

17. *Baccha clavata* (Fabricius)

Syrphus clavatus Fabricius, Ent. Syst., iv, p. 298, 1794.

Female, Chatham Island, April 17, 1932 (M. Willows Jr.). Male, Albemarle Island, April 24, 1906 (F. X. Williams).

This species is common over the whole of tropical America and is easily recognized.

18. *Mesogramma crockeri* Curran, new species

Mesogramma duplicata Coquillett, Proc. Wash. Acad. Sci., iii, p. 374, 1901 (not Wiedemann).

Related to *duplicata* Wiedemann but with the mesonotum wholly black pilose and the black abdominal fasciæ in the female strongly produced forward laterally. Differs from *producta* Curran in having the face much less strongly produced and in the shape of the abdominal fasciæ in the female. Length, 5 to 6 mm.

Male.—Face and frontal triangle yellowish; vertical triangle very long, black, thinly brownish pollinose in front of the ocelli, the pile black. Vertex brown pollinose, the occiput yellowish pollinose on the upper half, white pollinose and pilose on the lower half. Cheeks black. Face rather strongly produced. Antennæ reddish yellow, the third segment somewhat darkened above; arista blackish.

Mesonotum dark in ground color, reddish brown pollinose, the sides broadly yellow on their whole length; a median vitta and one at either side bordering the yellow bright bluish or steel-blue. Scutellum yellowish, sometimes a little darkened basally. Pleura bluish black, with large yellow spots on the mesopleura and sternopleura and a small one above the front coxæ. Pile black on the dorsum, yellow on the pleura.

Legs yellowish; apical segment of the middle tarsi and the posterior tarsi brown, the posterior tarsi sometimes paler on the intermediate segments. Black hair on under surface of posterior femora extending almost to the base.

Wings cinereous hyaline. Squamæ whitish. Halteres yellow.

Basal abdominal segment bluish black with the sides yellow. Second segment black with a little more than the median third reddish yellow or yellow. Third segment reddish, with a little less than the apical third black, the black expanding laterally to occupy about half the length of the segment, vary narrowly interrupted in the middle and emitting a pair of slender black vittæ which are rather triangularly expanded in front. Fourth segment with similar markings to those on the third, the fifth with an oval or roundish opaque black spot in the middle basally. Genitalia reddish with a large shining black spot on the right side. Pile black, yellow ventrally. The lateral margins are wholly pale or nearly so and the dark markings vary greatly, often being almost absent on the third and following segments.

Female.—Front black or steel blue, the sides rather narrowly yellow to above the middle, thinly brownish pollinose, in some lights the median black stripe appears yellowish pollinose; pile black. Occiput cinereous yellow pollinose. Pale fascia on second abdominal segment more than half as wide as the length of the segment, the black on the following segments much more strongly produced forward at the sides and reaching the basal fourth of the segment, apex of fifth segment more or less blackish, the sixth shining brown.

Holotype, No. 3798, and allotype, No. 3799, C. A. S. Ent., Charles Island, April 25, 1932. Paratypes, six males and four females, Charles Island, April 25 and May 14, 17, 1932; two females, Chatham Island, April 17, 1932; two males and two females, Tagus Cove, Albemarle Island, May 25, 1932; two males, James Island, June 4, 1932, and one male, Indefatigable Island, May 7, 1932, all collected by Mr. M. Willows Jr. Also two males, Albemarle Island, March, 1906 (F. X. Williams).

One of the specimens collected by Dr. Williams is very dark, the yellow fasciæ are mostly separated from the lateral margins and the posterior femora are brown apically.

19. *Xanthandrus* species

A single female of a small, undescribed species belonging to this genus was collected by Dr. F. X. Williams on Abingdon Island, September 8, 1906. The head is missing so it must remain nameless until perfect specimens are available. It cannot be the same as the following species.

20. *Syrphus albomaculatus* Smith

Syrphus albomaculatus Smith, Proc. Zool. Soc. London, 1877, p. 84.

Originally described from Charles Island.

This species evidently does not belong to *Syrphus* but I am unable to place it from the brief description although it appears to belong to the genus *Xanthandrus*. The name is preoccupied by *albomaculatus* Loew, which was attributed to Wiedemann, stated to be the same as *pyrastris* Linnæus. Unfortunately, I was unaware of the description of this species until long after I had sent specimens of *Paroxyna crockeri* to the British Museum and for this reason I have no definite information as to the generic position.

FAMILY PLATYSTOMIDÆ

The collection contains two species of *Euxesta*, one of them undescribed.

Genus *Euxesta* Loew

The following key separates the species recorded from the Islands.

TABLE OF SPECIES

- | | |
|---|------------------------------|
| 1. Femora blackish..... | 2. |
| Femora reddish..... | <i>nitidiventris</i> Loew. |
| 2. Costal border with two blackish spots..... | <i>notata</i> Wiedemann. |
| Costal border brown on the whole length..... | <i>galapagensis</i> , n. sp. |

21. *Euxesta nitidiventris* Loew

Euxesta nitidiventris Loew, Mon. N. Amer. Dipt., ii, p. 157, 1873.

Female, Indefatigable Island, May 6, 1932 (M. Willows Jr.).

22. *Euxesta galapagensis* Curran, new species

Blackish green, the parafacials and front reddish; wings broadly brown along the anterior border. Length about 3.5 mm.

Front reddish, the vertex blackish green, the dark color extending more than one-third the distance along the orbits and also over the ocellar triangle; hair moderately abundant. Vertex and occiput rather thinly cinereous pollinose. Cheeks, face and clypeus cinereous white pollinose. Palpi opaque black. Antennæ dull black, the third segment only a little longer than wide; arista black. Frontal lunule dull brown, a dark triangle lying between the antennæ.

Thorax blackish green, thinly pale pollinose, black haired.

Legs black; front coxæ mostly reddish; trochanters, knees, tips of the tibiæ and the tarsi reddish, the anterior tarsi becoming brown apically.

Wings cinereous hyaline, brown in front of the second vein and on the broad apex in front of the fourth vein. Anal cell moderately produced posteriorly.

Abdomen blackish green, thinly pale pollinose. The apical abdominal segments are missing so it is impossible to determine the color of the apical segments and the sex of the specimen.

Holotype No. 3800, C. A. S. Ent., Hood Island, October 1905 (F. X. Williams).

This species is so distinct from any described that I do not hesitate to describe it despite the condition of the abdomen.

FAMILY TRYPANEIDÆ

23. *Paroxyna crockeri* Curran, new species

Black, thickly pale pollinose, the head and legs mostly yellowish. Length, about 3 mm.

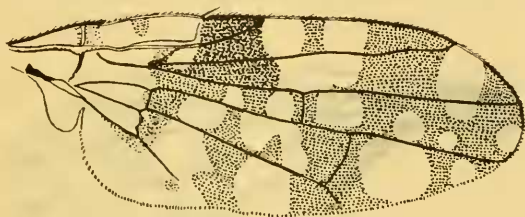


Figure 1

Male.—Head reddish yellow, the occiput blackish on the upper half; parafrontals, parafacials, cheeks and lower half of the occiput white pollinose, the upper half of the occiput with cinereous pollen; bristles of the front black, the upper pair of reclinate frontals white; bristles of occiput and cheeks white. Proboscis and palpi reddish. Antennæ reddish yellow, the arista black.

Mesonotum rather yellowish pollinose, with three brownish yellow vittæ which coalesce on the posterior half; scutellum brownish yellow, with darker border. Pleura cinereous pollinose. Hair whitish, the bristles black. Scutellum with one pair of strong marginals and a very weak apical pair.

Legs reddish, the posterior four coxæ and all the femora black, the femora cinereous pollinose and with the apices broadly reddish; apical tarsal segment somewhat brownish.

Wings brown with about twenty clear spots as shown in the figure, the color somewhat variable; third vein bare. Squamæ and halteres yellowish.

Abdomen cinereous pollinose, the dorsum with two rows of very large, brownish spots which may cover most of the dorsum and form almost entire, narrowly separated, vittæ, or the spots may be more or less orbicular and separated. Hair yellow. Genitalia brown.

Female.—Brown abdominal vittæ usually narrower; ovipositor shining black.

Holotype, male, No. 3801, and allotype, female, No. 3802, C. A. S., Ent., Indefatigable Island, June 8, 1932.

In the male the third and fourth abdominal segments have rather weak marginals laterally, in the female these are stronger and extend across the fourth segment.

Three specimens, Tagus Cove, Albemarle Island, May 24, 25, 1932; eleven specimens, Charles Island, May 14, 1932; seven specimens, James Island, June 4, 1932; female, South Seymour Island, July 11, 1932; four specimens, Jervis Island, June 6, 1932; four specimens, Duncan Island, June 7, 8, 1932; eleven specimens, Indefatigable Island, Conway Bay, June 8, Sullivan Bay, June 13, 1932, all collected by M. Willows Jr.

24. *Paroxyna* ? *æsia* Walker

Oxyna æsia Walker, List. Dipt. Brit. Mus., iv, p. 1006, 1849.

This species was described from the Galapagos and the type is in the British Museum (Natural History). It is in poor condition and Miss Daphne Aubertin, who compared specimens of *crockeri* with it, was unable to decide the genus to which it belongs, so its exact



Figure 2

position must remain in doubt until additional material is obtained. It seems probable that *æsia* is a true *Paroxyna* and it is at once evident that it differs markedly from the species described as *crockeri*. I am indebted to Mr. Marston Bates for the reference to the species and to Miss Aubertin and Mr. Tams for examining the type and furnishing a photograph of the wing.

FAMILY BORBORIDÆ

In my report on the Diptera of the Wollebæk Expedition I reported *Leptocera discalis* Malloch from St. Charles Island. This is the only species of Borboridæ recorded up to the present time, but the collection contains an undescribed species of *Sphærocera*.

25. *Sphærocera galapagensis* Curran, new species

Related to *binotata* Williston but with the femora extensively black. Length, 2.25 mm.

Female.—Head black, thinly pale pollinose; hair and bristles absent. Antennæ situated in oval depressions, transverse, reddish, the depressions with thinned margins below and laterally. Face receding, the clypeus large and on a level with the posterior edge of the antennal pits. Proboscis brownish red. Eye-facets rather large.

Thorax black, thinly yellowish brown pollinose; mesonotum with tiny brownish setulæ forming two acrostical rows, dorsocentral rows and a wide row above the wings. Disc of scutellum with tiny setulæ and a small tubercle on either side.

Pleura without hairs. Hypopleura produced and terminating in a mammiform process.

Legs reddish; coxæ, basal two-thirds of the anterior and basal half of the posterior four femora black; tibiæ darkened toward the apex. Hair pale and very short.

Wings cinereous hyaline, the veins yellowish basally; fifth vein reaching the wing margin; anal vein short. Squamæ yellowish. Halteres yellow.

Abdomen black, thinly brown pollinose, the dorsum with two large, yellow, membranous areas, that on the second segment subrectangular, widest behind, the corners rounded, the spot lying between the second and third segments, fully as large as the preceding one but more oval and with sharp outer ends. Venter yellowish, with only the apical sternites black and chitinized.

Holotype, female, No. 3803, C. A. S. Ent., Chatham Island, April 15, 1932 (M. Willows Jr.).

S. galapagensis belongs to a group of neotropical species in which the antennæ are horizontal and situated in well defined pits. The abdomen in most of the species is black with yellow, membranous markings above and the sternites quite small or partly missing. The yellow markings on the dorsum of the abdomen vary in size and shape in *bimaculata* Williston and perhaps in all the species. *S. pallipes* Malloch, from Panama, differs from the remaining species in the group in lacking the yellow markings. *S. bimaculata* is widely distributed in the American tropics.

FAMILY CHLOROPIDÆ

This family is represented in the Islands by four species. The genera are separable as follows.

- | | |
|---|-------------------------------|
| 1. Posterior tibiæ with a long, ventral terminal spine..... | 2. |
| Posterior tibiæ without apical spine..... | <i>Oscinella</i> Becker. |
| 2. Scutellum long and flattened; frontal bristles strong.... | <i>Prohippelates</i> Malloch. |
| Scutellum shorter and convex; frontals hair-like, very poorly developed | |
| | <i>Hippelates</i> Loew. |

26. *Prohippelates pallidus* (Loew)

Hippelates pallidus Loew, Berl. Ent. Zeit., ix, p. 184, 1865.

Four males and twelve females, South Seymour Island, June 11, 1932 (M. Willows Jr.).

There is some variation in the color of the tarsi. In some specimens the posterior tarsi are black below or clothed with black hair, while the anterior tarsi may be brown and the tip of the anterior tibiæ also darkened.

FAMILY CANACEIDÆ

Coquillett described a species belonging to this family, of which there are two described genera. Before me is a third genus represented by a species from the Panama Canal Zone and one from Albemarle Island. The genera are separable as follows.

KEY TO GENERA

1. Antennæ fully as long as the short, slightly convex face (Europe)
 *Dinomyia* Becker.
- Antennæ much shorter than the face 2.
2. Face convex *Canace* Haliday.
- Face concave below the middle *Procanace*, new genus.

Genus *Procanace* Curran, new genus

Front wide, the ocellar triangle dull but extending practically to the anterior margin of the front; three or four pairs of strong, divergent frontals with quite weak ones between; frontal vitta with a strong bristle toward either side opposite the anterior ocellus; ocellars strong, divergent; postocellars weak, parallel or slightly divergent; outer verticals divergent; cheeks about one-third as wide as eye-height, with two or three strong upturned bristles; face convex above, concave at or below the middle, the oral margin slightly projecting; clypeus prominent. Acrostical bristles and hairs absent; four pairs of dorsocentrals and an irregular row of hairs immediately inside each row; two pairs of marginal scutellars; one or two sternopleurals, the mesopleura with a downwardly directed bristle below the middle. Wings normal. Ovipositor of female with the apical lamellæ diverging and with short, erect bristles apically. Genotype, *P. panamensis*, new species.

I have named *panamensis* the genotype because the species should be more easily secured than *galapagensis*, the coast near Panama City being more accessible than the Galapagos Islands. I found the species in tide pools in the lava formation east of Panama City during low tide. Unfortunately the rising tide made further collecting impossible at the time but additional material should be secured without difficulty.

27. *Procanace galapagensis* Curran, new species

Black; wings brownish; face and cheeks gray pollinose. Length, 3 mm.

Female.—Front almost half as wide as the head anteriorly, greatly widening posteriorly; three pairs of strong, divergent frontals and weak ones between them; postocellars parallel; front and occiput dull blackish. Occiput with black hairs. Cheeks with a strong, upcurved bristle near the middle and another one anteriorly toward the oral margin, the vibrissæ scarcely weaker than these. Face concave a little below the middle, prominent above; clypeus narrow but distinctly protruding. Proboscis thinly grayish pollinose. Palpi brown, with apical bristle. Antennæ black; third segment somewhat longer than wide, rounded apically; arista pubescent.

Thorax dull black, in some lights with pale brown tinge; scutellum bare except for the marginals; two pairs of sternopleurals; mesopleura with scattered short bristly hairs, with a strong bristle near the middle below and another near the posterior margin.

Legs wholly black.

Wings brownish. Squamæ and halteres brown.

Abdomen black, with dull greenish tinge; lamellæ of the ovipositor moderately long and with three short, stout bristles on the outer side apically.

Holotype, female, No. 3804, C. A. S. Ent., Tagus Cove, Albemarle Island, May 27, 1932 (M. Willows Jr.).

28. *Procanace panamensis* Curran, new species

Differs from *galapagensis* in its smaller size, lighter color, pale halteres, etc. Length, 1.75 mm.

Male.—Front pale brownish, but in some lights appearing mostly dark grayish, the anterior border more or less gray pollinose; frontals between the strong bristles rather strong; ocellars long; postocellars gently diverging; outer verticals strong. Cheeks with three strong upwardly curved bristles. Face and cheeks whitish pollinose; face concave well below the middle, the clypeus moderately projecting. Proboscis grayish pollinose; palpi yellowish, the apical bristle rather weak. Antennæ black; third segment about as wide as long, obtusely rounded apically; arista pubescent.

Thorax black, cinereous pollinose, the dorsum brownish. Scutellum with a pair of discal hairs. Mesopleura with a single downwardly directed bristle; only one sternopleural.

Legs blackish, the femora rather paler and cinereous pollinose.

Wings tinged with brown. Squamæ brown. Halteres yellow.

Abdomen greenish black, with pale brownish pollen, the hair appressed but moderately long. Genitalia small.

Holotype, male, Patilla Point, Canal Zone, January 15, 1929 (Curran), in American Museum of Natural History.

FAMILY EPHYDRIDÆ

There is a single representative of this family in the collection, representing an apparently undescribed species of *Scatella*. The only other species recorded from the Islands is *Ephydra gilvipes* Coquillett.

29. *Scatella galapagensis* Curran, new species

Related to *stagnalis* but with four pairs of dorsocentral bristles, the anterior two pairs much weaker than the others; front polished metallic black. Length, 3 mm.

Male.—Face yellowish brown pollinose; the lowest and a median bristle in the facial rows strong and directed outward. Front shining metallic black, the lowest fourth with brown pollen, the middle very lightly and finely punctured; ocellars

rather strong. Cheeks about one-sixth as wide as the eye-height, rather thickly pollinose and with the usual strong bristle behind the middle. Antennæ black, the third segment obtusely rounded apically; arista pubescent.

Thorax black, moderately brown pollinose, the pollen becoming grayish on the pectus, the dorsum somewhat shining. Two pairs of strong dorsocentrals and two much weaker pairs in front of the suture, the presutural acrosticals only a little stronger than the third pair of dorsocentrals. Four scutellars, the basal pair about half as long as the apicals.

Legs blackish; femora grayish pollinose basally and brown pollinose on about the apical half. Coxæ with grayish pollen.

Wings light brown, with five whitish spots on the disc as in *stagnalis*. Squamæ whitish. Halteres reddish yellow.

Abdomen greenish basally and bronzed on the apical half and sides, rather thinly yellowish brown and cinereous pollinose. Venter blackish.

Holotype, male, No. 3805, C. A. S. Ent., Chatham Island, April 17, 1932 (M. Willows Jr.).

FAMILY PHYLLOMYZIDÆ

This family has not been recorded from the Islands. One specimen is in the collection.

30. *Desmometopa M-nigrum* (Zetterstedt)

Agomyza M-nigrum Zetterstedt, Dipt. Scand., vii, p. 2743, 1848.

Female, South Seymour Island, July 11, 1932 (M. Willows Jr.).

This species occurs in Europe, North America and the West Indies.

FAMILY DROSOPHILIDÆ

The two specimens in the collection represent species previously recorded from the Islands.

31. *Drosophila immigrans* Sturtevant

Drosophila immigrans Sturtevant, N. Amer. Sp. Drosophila, p. 83, 1921, (f).

One specimen, James Island, June 4, 1932 (M. Willows Jr.).

32. *Diastata costalis* (Coquillett)

Rhinoessa costalis Coquillett, Proc. Wash. Acad. Sci., iii, p. 378, 1901.

Male, Hood Island, October, 1905 (F. X. Williams).

FAMILY AGROMYZIDÆ

The collection contains two species belonging to this family.

33. *Cerodontha dorsalis* (Loew)

Odontocera dorsalis Loew, Berl. Ent. Zeit., vii, p. 54, 1863.

Two specimens, Charles Island, April 25, 1932, and Indefatigable Island, May 1, 1932 (M. Willows Jr.).

34. *Odinia williamsi* Johnson

Odinia williamsi Johnson, Zoologica, v, p. 90, 1924.

Male, Indefatigable Island, May 7, 1932; male, Jervis Island, June 6, 1932 (M. Willows Jr.). Male and two females, Barrington Island, November 20, 1905, and female, Abingdon Island, April 8, 1906 (F. X. Williams), the last recorded as "ovipositing on cactus."

FAMILY MUSCIDÆ

Six species have previously been recorded from the Islands, and three additional ones are contained in the material before me. A key to the genera is presented.

KEY TO GENERA

1. Arista pectinate; proboscis long and strongly broadened basally.*Stomoxys* Geoffroy.
 Arista bare, pubescent or plumose; proboscis shorter and not broadened
 basally. 2.
2. One presutural dorsocentral.*Xenocænusia* Malloch.
 Two presutural dorsocentrals. 3.
3. Prosternum haired. 4.
 Prosternum bare. 5.
4. Arista bare.*Synthesiomyia* Brauer & Bergenstamm.
 Arista with long rays.*Musca* Linnaeus.
5. Anal vein short, the following vein curved so as to cut across its apex
 *Fannia* Desvoidy.
 Anal vein long. 6.
6. Pteropleura bare. 7.
 Pteropleura with hair.*Lispe* Latreille.
7. Body shining blackish.*Ophyra* Desvoidy.
 Body pollinose and dull.*Limnophora* Desvoidy.

35. *Xenocænusia devia* Curran, new species

Agrees with *ovata* Stein in having a median anteroventral bristle on the posterior tibiae but the base of the abdomen is broadly yellow. Length, 3.5 to 4 mm.

Male.—Front rather wide, brownish, the orbits, a median vitta and the vertex dull yellowish; ocellars long; occiput, face and cheeks cinereous pollinose, the upper part of the occiput and face with yellowish tinge. Palpi reddish yellow; proboscis brown. Antennae blackish with almost the basal half of the second segment reddish; arista black, with moderately long rays.

Thorax black, densely cinereous pollinose, the dorsum more or less brownish in the middle or almost wholly tinged with brownish yellow. Acrostical hairs paired, in four rows behind the suture. Scutellum with four equally strong bristles.

Legs reddish yellow, the tarsi brownish. Anterior and middle tibiae with posterior bristle near the middle, the middle tibiae with anterior median bristle. Posterior femora with an entire row of anterodorsal bristles, three posteroventrals, three or four strong anteroventrals and as many very poorly differentiated ones basally, a preapical posterodorsal and another on the posterior surface. Posterior tibiae with a strong anterodorsal near the middle, a weak anteroventral below it, a strong dorsal bristle on the apical fourth and a slightly weaker anterodorsal near the apex. Apex of hind femora with brown spot.

Wings cinereous hyaline; veins brownish, becoming reddish basally. Squamæ white. Halteres pale yellow.

Abdomen brownish in ground color, yellowish on about the basal half except in the middle, densely covered with cinereous pollen ventrally and cinereous yellow pollen above; dorsum with a narrow, median brown vitta on the apical three segments and a round spot at the lateral third of the posterior border. First segment entirely yellow, the second with a broad black triangle extending to the base in the middle. Fourth segment with row of discals and marginals, third with marginals only, the basal two with only lateral bristles.

Female.—Yellowish median vitta of the front in the form of a triangle extending two-thirds the distance from the ocelli to the anterior border of the front. Dorsal bristle on posterior tibiae situated half way between the anterodorsal and apex. Median dark vitta on abdomen less distinct.

Holotype, male, No. 3806, and allotype, female, No. 3807, C. A. S. Ent., Chatham Island, April 17, 1932. Paratypes, three females, Chatham Island, April 17, and male and female, James Island, June 4, 1932 (M. Willows Jr.).

36. *Fannia* species

Two females, Chatham Island, April 17, 1932 (M. Willows Jr.).

As there is no male available I am unable to identify these specimens but think they are probably *pusio* Wiedemann. I have female examples of the same species from British Guiana and Panama Canal Zone, but have no males associated with them.

37. *Ophyra ænescens* Wiedemann

Anthomyia ænescens Wiedemann, Aussercur. Zweifl., ii, p. 435, 1830.

Two females, South Seymour Island, June 11, 1932 (M. Willows Jr.).

38. *Lispe* species

A single female, in only fair condition, belongs to this genus. It is impossible to identify the species without a male and it is to be hoped that this sex may be secured. The specimen was taken by F. X. Williams on Charles Island, October, 1905.

39. *Musca domestica* Linnæus

Musca domestica Linnæus, Syst. Nat., 10th ed., i, p. 596, 1758.

One female, South Seymour Island, June 11, 1932 (M. Willows Jr.).

40. *Stomoxys calcitrans* (Linnæus)

Conops calcitrans Linnæus, Syst. Nat., 10th ed., i, p. 604, 1758.

Two females, South Seymour Island, June 11, 1932, and one female, Chatham Island, April 17, 1932 (M. Willows Jr.).

41. *Morellia ochricornis* (Wiedemann)

Musca ochricornis Wiedemann, Aussereur. Zweifl., ii, p. 408, 1830; F. Smith, Proc. Zool. Soc. London, p. 84, 1877.

This species was collected on Charles Island during the visit of H. M. S. "Peterel" in 1875.

FAMILY METOPIIDÆ

I employ this name for the group which has been known as the Sarcophagidæ, Calliphoridæ, Miltogramminæ, and Muscidæ (Townsend), since *Metopia* is the oldest included generic name. The family is fairly well represented on the Islands.

KEY TO GENERA

1. Arista plumose. 2.
Arista long pubescent above, very short below. *Opsophytopsis* Townsend.
2. Suprasquamal ridge bare. 3.
Suprasquamal ridge with long hairs. *Viridinsula* Shannon.
3. Palpi long and more or less swollen apically. 4.
Palpi short and wholly slender; face and cheeks yellow in ground color
. *Cochliomyia* Townsend.
4. Two sternopleurals; female with a single proclinate orbital. 5.
At least three sternopleurals; female with two proclinate orbitals. . . .
. *Sarcophaga* Meigen.
5. Posterior crossvein situated more than its length from the bend of the
fourth vein. *Sarcophagula* Wulp.
Posterior crossvein situated much less than its length from the bend of
the fourth vein. *Prosthetocirca* Townsend.

42. *Cochliomyia macellaria* (Fabricius)

Musca macellaria Fabricius, Syst. Ent., p. 776, 1775.

Three females, Chatham Island, April 17, 18, 1932 (M. Willows Jr.). Six females, Charles Island, October, 1905; female, Barrington Island, October 20, 1905; two males and six females, Hood Island, October, 1905 (F. X. Williams).

Genus *Viridinsula* Shannon

At the time I examined the Diptera of the Wollebæk Expedition I had only alcoholic specimens belonging to this genus and I was misled into placing the material studied under the name *pionia* Walker. There are two species belonging to the genus and I am now describing the dark colored form. They are separable as follows.

Bright green; eyes of male approximate above..... *pionia* Walker.

Blackish with bronze and dull greenish reflections and rather thickly pollinose; eyes of male widely separated..... *deceptor*, n. sp.

43. *Viridinsula pionia* (Walker)

Musca (Lucilia) pionia Walker, List. Dipt. Brit. Mus., iv, p. 880, 1849.

Female, Indefatigable Island, May 6, 1932 (M. Willows Jr.). Female, Charles Island (F. X. Williams).

44. *Viridinsula deceptor* Curran, new species

Viridinsula pionia Curran, Nyt Mag. Naturvidens., lxxi, p. 361, (not of Walker).

Dark green and bronzed but so thickly grayish pollinose that the insect appears blackish to the naked eye; front of male moderately wide. Length, 5 to 8 mm.

Male.—Head black in ground color, thickly cinereous pollinose, the frontal pollen with brownish tinge. Front one-fifth of the head-width, the frontal vitta dull reddish on the anterior half; seven or eight pairs of rather weak frontals; ocellars long; outer verticals moderately long. Occipital cilia black, the pile with yellowish tinge. Cheeks almost one-third as wide as the eye-height, yellowish haired below and posteriorly, with coarse black hair above and anteriorly. Parafacials about as wide as the antennæ; oral margin produced. Palpi reddish yellow, the apices infuscated. Antennæ brownish, the apex of the second segment and base of the third more or less reddish; arista black, with long rays above and short ones below.

Thorax densely gray pollinose, the mesonotum with three poorly defined dark vittæ, the ground color dull green beneath the pollen, on the mesonotum somewhat bronzed. Acrosticals 2-2; dorsocentrals 3-3; posterior sublateral absent; two intralars; sternopleurals 2-1; four pairs of marginal scutellars and a discal pair. Hair black.

Legs blackish, the femora gray pollinose. Anterior femora with a row of strong posterodorsal bristles, a slightly weaker row immediately below them and a row of very strong posteroventral bristles; middle femora with three or four anteroventral bristles on the basal half, a row of strong posteroventral bristles on the basal two-thirds and short fine bristles on the apical third; posterior femora with row of antero- and posteroventral bristles and a row on the anterodorsal surface. Anterior tibiae with a posterior bristle near the middle, the middle tibiae with two short posterodorsal bristles, the posterior tibiae with a row of very short anterodorsal bristles.

Wings cinereous hyaline. Squamæ yellowish. Halteres reddish yellow.

Abdomen mostly green in ground color, the dorsum bronzed, the apices of the segments and a median vitta on the second and third segments blackish, the cinereous pollen quite thick. Hair black, yellow on the venter. Third and fourth segments each with a row of marginals, the fourth with erect bristly hairs. Fifth sternite divided on practically its whole length, the lobes very broadly separated, long and conspicuous, with bristles apically. Genitalia blackish, grayish pollinose.

Female.—Front about two-fifths as wide as the head; basal antennal segments sometimes reddish. Sternopleura with yellowish pile. Hair of fourth abdominal segment shorter and appressed; venter with black hair except basally.

Holotype, male, No. 3808, North Seymour Island, June 12, 1932; allotype, female, No. 3809, C. A. S. Ent., Tagus Cove, Albemarle Island, May 27, 1932 (M. Willows Jr.). Paratypes, male and female, Hood Island, October, 1905, January, 1906; two females, Cocos Island, September 3, 1905 (F. X. Williams); four males and ten females, Floreana or Charles Island (Wollebæk Exp.).

45. *Opsophytopsis inoa* (Walker)

Sarcophaga inoa Walker, List. Dipt. Brit. Mus., iv, p. 832, 1849.

Opsophytopsis insularis Townsend, Ins. Ins. Mens., v, p. 163, 1917.

Wohlfahrtia inoa Johnson, Zoologica, v, p. 88, 1924.

Female, James Island, July 28, 1906; female, Chatham Island, October 14, 1905, and female, Indefatigable Island, November, 1905, all collected by F. X. Williams.

46. *Sarcophagula occidua* (Fabricius)

Musca occidua Fabricius, Ent. Syst., iv, p. 315, 1794.

Male and female, Charles Island, April 23 and May 14, 1932; female, James Island, June 4, 1932; seven males and the same number of females, Chatham Island, April 17, 1932. All the specimens were collected by Mr. M. Willows Jr.

The synonymy of this species is given in my previous paper on the Galapagos Diptera.

47. *Prosthetocirca cana* Townsend

Prosthetocirca cana, Townsend, Proc. Biol. Soc. Wash., xxx, p. 196, 1917.

Sarothromyiops cincta Townsend, Proc. Biol. Soc. Wash., xxx, p. 196, 1917.

Male, Hood Island, January, 1906 (F. X. Williams). Female, Indefatigable Island, May 5, 1932 (M. Willows Jr.).

I am not certain that the female belongs here as it has black palpi while the male has these organs brownish red. However, it is not likely that there are two species on the Islands. The posterior forceps of the male are peculiar: basally there is a pair of transverse, foliate appendages, the basal half is thick while the apical half is in the form of a slender, tapering, slightly curved, cylinder. Despite its shape the forceps are not united and the lower edges of the thickened part bears abundant very short, fine hairs on the inner surface.

Genus *Sarcophaga* Meigen

1. Fourth abdominal segment with golden yellow pollen.....*taitensis* Schiner.
Fourth abdominal segment without yellowish pollen..... 2.
2. Males..... 3.
Females..... 7.
3. Genital segments blackish.....*williamsi*, n. sp.
At least the second genital segment reddish..... 4.
4. Palpi mostly reddish; posterior forceps with four arms. *plinthopyga* Wiedemann.
Palpi blackish; posterior forceps with only a single arm on either side..... 5.
5. First genital segment blackish; posterior forceps with stout, short setulae in the middle behind.....*violenta* Walker.
First genital segment brownish only on apical half..... 6.
6. Posterior forceps with tiny setulae on most of their length and without yellow pubescence on their inner margin.....*reversa* Aldrich.
Posterior forceps without setulae, their inner margins with dense yellow pubescence on the basal half.....*isla*, n. sp.
7. Fifth abdominal segment brownish, cinereous pollinose.....*violens* Walker.
Fifth abdominal segment reddish..... 8.
8. Bristles on fifth tergite almost equally strong and almost contiguous along the whole apex.....*isla*, n. sp.
Bristles not all equally strong, those in the middle quite weak.....
.....*plinthopyga* Wiedemann ?.

48. *Sarcophaga taitensis* Schiner

Sarcophaga taitensis Schiner, Novara Reise, Dipt., p. 314, 1868.

Four males, Charles Island, April 17 and 25, 1932 and May 14, 1932; male, James Island, June 1, 1932; two females, Chatham Island, April 17, 1932; female, Iguana Cove, Albemarle Island, May 21, 1932; female, Duncan Island, May 7, 1932, all collected by Mr. M. Willows Jr. Two females, Albemarle Island, March, 1906 (F. X. Williams).

49. *Sarcophaga plinthopyga* Wiedemann

Sarcophaga plinthopyga Wiedemann, Aussereuropäische Zweiflügelige Insecten, ii, p. 360, 1830.

S. robusta Aldrich, Sarc. & Allies., p. 207.

S. quadriforceps Curran, Nyt Mag. Naturwissen., lxxi, p. 363, 1932.

A female collected by F. X. Williams on San Martin Island, off the coast of Lower California, July 2, 1905, is referred here with some doubt as I do not have available authentic females of this species.

50. *Sarcophaga violenta* Walker

Sarcophaga violenta Walker, List. Dipt. Brit. Mus., iv, p. 826, 1849.

Gigantotheca galapagensis Townsend, Proc. Biol. Soc. Wash., xxx, p. 195, 1917.

S. violenta Aldrich, Proc. U. S. N. M., lxxviii, Art. 12, p. 16, 1930, (fig.).

Two males and one female, Indefatigable Island, November, 1905; male, Barrington Island, October 20, 1905 (F. X. Williams).

51. *Sarcophaga isla* Curran, new species

Resembling *violenta* Walker but the first genital segment is red with brownish apex and the genitalia are very different. Length, 9 to 11 mm.

Male.—Head white pollinose; front one-fifth as wide as the head; frontals diverging below; ocellars weak; outer verticals scarcely developed; an incomplete row of black hairs behind the occipital cilia; pile of occiput white; cheeks with fine

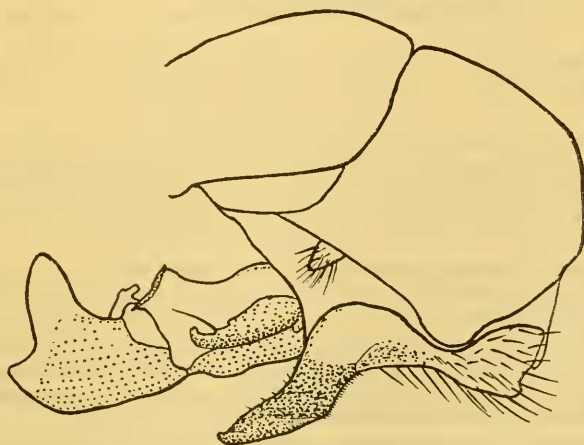


Figure 3

black hair; hair of parafacials rather fine. Palpi brown. Antennæ brown, the basal segments reddish; arista brown, its rays of moderate length.

Thorax cinereous pollinose, the three black vittæ of moderate width. Prescutellar acrosticals weak; presutural dorsocentrals weak, the posterior series with only the posterior one strong, the anterior three or four very weak; apical scutellars absent; sternopleurals 1-1-1; propleura bare in middle.

Legs black, the femora with cinereous pollen; middle femora with comb of short, stout bristles apically on posteroventral surface and with two preapical postero-dorsal bristles, villous on the basal half below; posterior femora villous below, their tibiæ short villous on the apical half of ventral surface; claws and pulvilli elongate.

Wings cinereous hyaline. Squamæ white. Halteres mostly brownish.

Abdomen cinereous pollinose, a median vitta and the apices of the segments black or brown, each segment toward the side with a blackish spot in some lights; no marginals except on the fourth segment and sides of the others. Genitalia reddish, the basal segment with the apex brown above; posterior forceps expanded and red on the basal half, black and curved on the apical half, outer forceps narrow; posterior claspers long and rather narrow, the anterior claspers not developed; penis robust, the end expanded and very thin.

Female.—Front one-fourth the head-width; normally two pairs of proclinate orbitals; ocellars rather weak; outer verticals weak. Dorsocentrals not longer but more conspicuous. Abdomen more tessellate, the median vitta narrower, the apices of the segments not clearly black or brown. Fifth tergite reddish, with a row of strong, almost contiguous apical bristles, its sternite bright red, with an irregular row of rather short, appressed bristles near the apical third, its apex rather transverse with a shallow U-shaped median emargination, the basal two-thirds convex; apex of ovipositor yellowish and with black bristles.

Holotype, male, No. 3810, and allotype, female, No. 3811, C. A. S. Ent., Gardner Island, September, 1905. Paratypes, two males, Gardner Island, September, and four males and four females, Hood Island, October, 1905, all collected by F. X. Williams.

52. *Sarcophaga williamsi* Curran, new species

Hind tibiæ villous; genitalia wholly blackish; two strong post-sutural dorsocentrals. Length, about 7.5 mm.

Male.—Front two-elevenths of head-width; frontals diverging below; ocellars and outer verticals absent; two partial rows of black hairs behind the occipital cilia; occipital pile white; cheeks with black hairs, almost one-third as wide as the eye-height; parafacial hairs sparse; head white pollinose. Palpi brownish red, dark below. Antennæ brownish, the basal segments brownish red.

Thorax black, cinereous pollinose, the mesonotum with four moderately wide blackish vittæ. Dorsocentrals weak, the two posterior pairs strong; sternopleurals 1-1-1; no apical scutellars.

Legs black, the femora with grayish pollen. Middle and posterior femora with long hair below, the middle pair with weak, comb-like row of bristles apically. Middle tibiæ with the hair on the apical half of the lower surface hardly as long as the tibial thickness, the posterior tibiæ villous.

Wings cinereous hyaline. Squamæ whitish. Halteres yellowish with the base of the knob brownish.

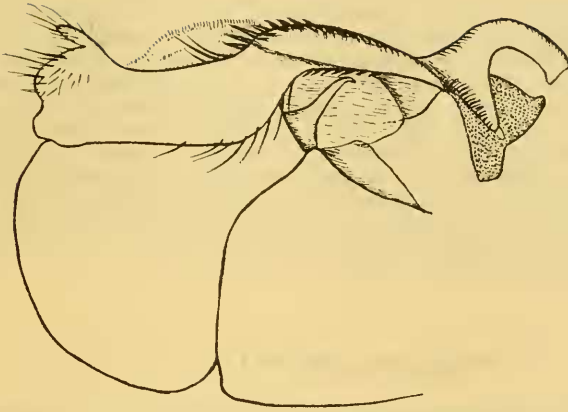


Figure 4

Abdomen black, with cinereous pollen, rather strongly tessellate, the black median vitta narrow. Lobes of fifth sternite very broadly separated, with very short black bristles along their inner edges, the base perpendicular and with a deep U-shaped incision in the middle. Posterior forceps reddish on the basal half, black apically, near their middle with short, coarse setulæ along the inner side, and for some distance beyond the base with dense yellow pubescence on the inner margin.

Holotype, male, No. 3812, C. A. S. Ent., Charles Island (F. X. Williams).

FAMILY TACHINIDÆ

This family has not been recorded from the Islands and the single specimen in the collection represents an apparently undescribed genus.

Genus *Galapagosia* Curran, new genus

In Townsend's Key to Genera traces to *Stomatodexia* Brauer and Bergenstamm but the palpi are smaller, the arista quite bare, cheeks somewhat narrower, etc.

Front almost one-fifth as wide as the head; with six pairs of frontals, the upper pair reclinate, the lower two pairs situated below the base of the antennæ; ocellars of moderate length; verticals rather weak. The occipital cilia extend to the cheeks and the occiput is pale haired. Cheeks about one-seventh as wide as the eye-height, with coarse, sparse hairs. Face almost as long below as at the base of the antennæ, gently receding, the oral margin somewhat produced; facial ridges bare; parafacials about half as wide as the third antennal segment, bare. Proboscis blackish, the apical section about three-fourths as long as the head-height; palpi rather slender, gently enlarged apically, of moderate length and bearing a few short, black bristly hairs below. Antennæ reaching almost to the vibrissæ, the third segment scarcely twice

as long as the second, with parallel sides, the apex obtusely rounded; arista practically bare, thickened on the basal fifth. Eyes bare. Acrosticals wholly absent although two of the presutural hairs are somewhat stronger than the others; dorso-centrals 3-3, although the anterior pair is very weak; posterior sublateral absent; posthumeral weak; two weak intra-alars; two pairs of marginal scutellars; three sternopleurals, the lower one very weak. Propleura and prosternum bare; infra-squamal setulæ absent. Legs normal, the tibial bristles short. Wings with the apical cell ending a little in front of the wing tip, narrowly open; bend of fourth vein without appendage; base of third vein with one or two weak basal bristles; costal spine very short. Abdomen long, narrow, subcylindrical and tapering; first segment without dorsal bristles, the second with a pair of marginals, the third and fourth each with a row; discals absent; genitalia small, wholly concealed from dorsal view. Genotype: *G. minuta*, n. sp.

53. *Galapagosia minuta* Curran, new species

Black, the antennæ, legs and abdomen partly yellowish or reddish. Length, 3.5 mm.

Male.—Head white pollinose; frontal vitta narrower than either parafrontal and brown in color. Antennæ black with the basal segments yellowish; palpi yellow.

Thorax cinereous pollinose, the mesonotum with four brown vittæ, the median pair approximate, replaced a little behind the suture by a single median vitta, the outer ones short and broadly interrupted at the suture; behind the outer ends of the suture a short, brownish black stripe. Scutellum brown, with the base and broad sides cinereous.

Legs brown; trochanters and tips of the femora reddish, the tibiæ more or less broadly reddish basally.

Wings cinereous hyaline; squamæ large, with yellowish tinge. Halteres yellow.

First abdominal segment brown with the sides very broadly yellow except apically and basally on the dorsum, wholly yellow on the under side; second segment broadly brown in the middle and posteriorly, the yellow in the form of large basal triangles and occupying the whole of the under side of the tergites; fourth segment much less extensively yellow, the posterior two-fifths black on the under side, the yellow triangles extending onto the dorsum narrow and reaching only about one-fourth the distance across; fourth segment wholly black. Basal half of the tergites thickly cinereous pollinose, the apical portion brownish, the brown extending slightly forward on the median portion; on the fourth segment the gray pollen is more extensive and the apex is shining black. Genitalia quite small, brownish behind, reddish anteriorly, the brown area thickly cinereous pollinose.

Holotype, male, No. 3813, C. A. S. Ent., Indefatigable Island, May 5, 1932 (M. Willows Jr.).